

National Science Day Lecture



Altruism is not a word in NAL's common parlance. We're more likely to talk about aerodynamics, aeroelasticity or even aeroservoelasticity.

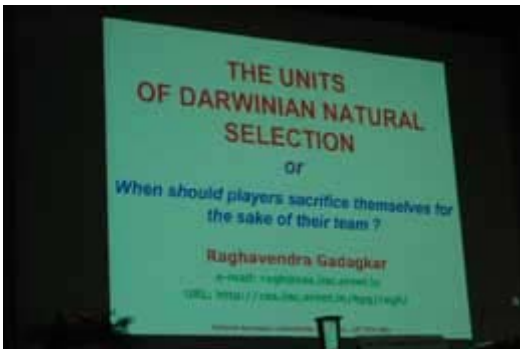
But suddenly, starting Tuesday afternoon, we're all talking of altruism, and of selfishness at NAL. It must be the Gadagkar effect.

Professor Raghavendra Gadagkar's 2006 NAL



National Science Day Lecture on *Units of Darwinian Natural Selection -- When should players sacrifice themselves for the sake of the team?* was brilliant: it was illuminating, occasionally witty, recounted with verve and aplomb, but never trivial. "I won't insult your intelligence by over-simplifying", Gadagkar promised in his opening caveat ... and he kept his promise. Gadagkar's second caveat was even more thoughtful: you can learn the 'how-to-do' from nature, but don't ever allow nature to tell you what to do ...

I also marvelled at how well Gadagkar had organised his talk. Starting with his caveats, his enunciation progressed along a carefully charted path: he spoke of every concept, idea or discovery that he needed to as he walked the path, but neversuccumbed to the temptation to stray from his chosen path; I can't say that I know too many other professors who are so disciplined.



The talk started with a homage to Darwin ("he talked of so many things ... he anticipated so many problems ...); and of how, after Darwin, "nothing in biology makes sense except in the light of evolution".

Gadagkar then moved on to conflicts in the animal kingdom: why do they fight out there, and why do they stop fighting? What was the survival value of fighting?

It was fascinating to hear Gadagkar say: "They used Darwin to explain everything. In many cases something attributed to Darwin *wasn't what Darwin said; it was what people thought he said*".

Gadagkar suggested that biologists like Konrad Lorenz and Vero C Wynne-Edwards got their Darwin completely wrong. "They both made the same errors, but Wynne-Edwards at least made these errors very precisely!". In Gadagkar's view, errors could persist in biology for a hundred years (1859-1959) because the language that biologists employed was "extraordinarily vague".



It was only after the 1960's that one realised that Darwin's original theories required modifications or extensions. We needed new theories, for example, to understand when and why were species altruistic or selfish. Gadagkar explained his experiments at IISc for two

decades, involving the social behaviour of wasps, based on what Hamilton wrote in 1964 ("and what Haldane probably first thought of in 1953").

Dr A R Upadhyya, Director, thanked Prof Gadagkar for his "delightfully precise" lecture and for shattering the myth that "nature is not always right". He also talked of how the National Science Day is an occasion to restore scientific temper. Dr M R Nayak welcomed the gathering and Dr M N Sathyanarayana proposed the vote of thanks.

Srinivas Bhogle